TSELIBEYEV, B.A. (Moscow)

Mode of action of insulin. Vrach.delo no.5:535-537 My '58 (MIRA 11:7)

1. Oblastnaya psikhonevrologicheskaya bol'nitsa No.3.
(INSULIN)

LAKOSINA, N.D.; ROZHNOV, V.Ye.; TSELIBEYEV, B.A.

New preparations for the treatment of depressive states; a survey of foreign literature. Prak.sudebnopsikh.ekspert. no.5:96-129 '61. (MIRA 16:4)
(PSYCHOPHARMACOLOGY) (DEPRESSION, MENTAL)

TSELIBEYEV, B.A., kand. med. nauk

Mental disorders in poisoning with organophosphoric insecticides. Sov. med. 27 no.6:120-124 Je '64. (MIRA 18:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut sudebnoy psikhiatrii imeni V.P. Serbskogo (direktor - dotsent G.V. Morozov) i Klinicheskaya ordena Lenina bol'nitsa imeni S.P. Botkina (glavnyy vrach - dotsent Yu.G. Antonov), Moskva.

TSELIBEYEV, B.Z.

Pathogenesis of excitability in insulin therapy and its control [with summary in French]. Zhur.nevr. i psikh. 57 no.12:1503-1508 '57. (MIRA 11:2)

1. Kafedra psikhiatrii imeni S.S.Korsakova (zav. - prof. Ye.A. Popov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

(CHLORPROMAZINE, therapeutic use
excitation in insulin shock ther. (Rus))
(SHOCK THERAPY, INSULIN,
adjuvant, chlorpromazine (Rus))

TSELIGOROV, A.I.

Tasks of mining geology in the coal industry. Ugol' 29 no.10:1-6 O '54. (MLRA 7:11)

1. Glavnyy geolog trosta Artemugol'.
(Mining geology) (Coal geology)

SVERDLOV, Ye.N., inzh.; TSELIGOROV, Ye.V., inzh.

Modernizing SBK-1 tower cranes. Mekh.stroi. 14 no.6:24-26 Je '57.
(MIRA 10:11)
(Cranes, derricks, etc.)

ANTIPIN, V.I.; BUDANOV, N.D.; KOTLUKOV, V.A.; LEYBOSHITS, A.M.; PROKHOROV, S.P.,, kand.geol.-miner.nauk; SIRMAN, A.P.; FALOVSKIY, A.A.; SHTEYN, M.A.; BASKOV, Ye.A.; BOGATKOV, Ye.A.; GANEYEVA, M.M.; ZARUBINSKIY, Ya.I.; IL'INA, Ye.V.; KATSIYAYEV, S.K.; KOMPANIYETS, N.G.; NELYUBOV, L.P.; PONOMAREV, A.I.; REZNICHENKO, V.T.; RULEV, N.A.; TSELIGOROVA, A.I.; ALSTER, R.K.; SHVETSOV, P.F.; VYKHODTSEV, A.P.; KOTOVA, A.I.; KASHKOVSKIY, G.N.; LOSEV, F.I.; ROMANOVSKAYA, L.I.; PROKHOROV, S.P.; MATVEYEV, A.K., dots., retsenzent; CHEL'TSOV, M.I., inzh., retsenzent; KUDASHOV, A.I., otv. red.; PETRYAKOVA, Ye.P., red. izd-va; IL'INSKAYA, G.M., tekhn. red.

[State of flooding and conditions for the exploitation of coal-bearing areas in the U.S.S.R.] Obvodnennost' i usloviia ekspluatatsii mestorozhdenii ugol'nykh raionov. Pod nauchn. red. S.P.Prokhorova. Moskva, Gosgortekhizdat, 1962. 243 p. (MIRA 15:7)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i inzhenernoy geologii. 2. Kafedra geologii i geokhimii goryuchikh iskopayemykh Moskovskogo Gosudarstvennogo universiteta (for Matveyev).
(Coal geology) (Mine water)

FREYMAN, V.B.; TSELIGOROVA, N.S.

Immunization of horses for the purpose of preparing polyvalent anti-influenza serum. Vak. i syv. no.1:124-131 '63. (MIRA 18:8)

1. Moskovskiy institut vaktsin i syvorotok im. I.I.Mechnikova.

S/073/60/026/003/004/004
B016/B054

AUTHORS: Vinarov, I. V., Tselik, I. N., and Orlova, A. I.

TITLE: The Problem of Lixiviation of Germanium by Water From Coals

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, 1960, Vol. 26, No. 3, pp. 383 - 388

TEXT: The authors extracted germanium with distilled water (without using ultrasonic waves) from fat boiler coal of the type ПЖ(PZh), large-sized gas coal of the type ГК (GK), and low-ash, enriched coal in a ground state. The germanium content of the coals was 0.0030, 0.0023, and 0.0010%, respectively. Table 1 shows the granulometric composition of the ground coals. Table 2 and Fig. 1 show the results of the first test series conducted to study the dependence of extraction on the duration of lixiviation. Hence, it appears that germanium can be extracted from ground coals, even under standard conditions (without ultrasonic field or irradiation), but to a relatively small extent. The degree of extraction depends on the duration of the process. In further

The Problem of Lixiviation of Germanium by Water From Coals

S/073/60/026/003/004/004
B016/B054

experiments (Fig. 2), the authors proved that a more intensive dissolution of germanium is inhibited by the sorption of germanium by the coal. The degree of extraction of germanium from coal rises by continuous lixiviation with water. Among the hypotheses on the origin of germanium in coals, the authors prefer that which states that germanium compounds are absorbed by coal from the circulating waters. There are 2 figures, 4 tables, and 6 Soviet references.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, Laboratoriya v Odesse (Institute of General and Inorganic Chemistry of the AS UkrSSR, Odessa Laboratory)

SUBMITTED: January 30, 1959

Card 2/2

TSELIK, I. N.; TURKALOV, N. F.; ORLOVA, A. I.

Sorption of germanium oxide from aqueous solutions by coals.
Ukr. khim. zhur. 28 no.3:419-421 '62. (MIRA 15:10)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, laboratorii v Odesse.

(Germanium oxide) (Sorption) (Coal)

TSELIK, I.N.; TURKALOV, N.F.

Sorption of germanium oxide from aqueous solutions by activated carbon. Ukr.khim.zhur. 28 no.2:179-185 '62. (MIRA 15:3)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Germanium oxides) (Carbon, Activated)

VINAROV, I.V.; TSELIK, I.N.; ORLOVA, A.I.

Leaching out germanium from coals with the use of water.
Zhur.prikl.khim. 33 no.7:383-388 Jl '60.
(MIRA 13:7)

1. Institut obshchey i neorganicheskoy khimii AN USSR, laboratoriya v Odesse.
(Germanium)

S/137-59-9-12/25

AUTHORS: Tselik, I.N. and Ukshe, E.S.

TITLE: Chlorination of a Titanium-Containing Slag

PERIODICAL: Tsvetnyye metally, 1959, Nr 9, pp 49-53 (USSR)

ABSTRACT: Investigations of titanium-containing materials is important. One of these is the slag obtained by melting an ilmenite concentrate with a determined quantity of coke. This contains 70 to 80% TiO_2. Normally a chlorine-air mixture, obtained from the electrolysis of $MgCl_2.NaCl_2$ mixtures, is used for chlorination. The slags were first ground, made up in briquettes, dried and heated at 800°C for 8 hours. Chlorination was carried out for 7 hours. Table 2 shows the effect of temperature on chlorination. 700°C is the optimum temperature. Further increases in temperature cause films of calcium and magnesium chlorides, and aluminium and silicon oxides which prevent contact of the particles with chlorine. Table 3 shows the influence of carbon content in the briquettes on chlorination. There is an increase of 5% with an increase of carbon content from 15 to 20%. Further increases in carbon content are not recommended. The anode chlorine was compared with concentrated chlorine. Table 4 shows a

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Chlorination of a Titanium-Containing Slag SOV/136-59-9-12/25

comparison of the degree of chlorination and Table 5 of the rate of chlorination. Concentrated chlorine is better in both cases. Table 6 shows analyses of the commercial $TiCl_4$ produced from concentrated and anode chlorine. There is no difference in impurities. There are 2 figures and 6 tables.

ASSOCIATION:Bereznikovskiy Filial VAMI (Berezniki Branch VAMI)

Card 2/2

S/073/62/028/002/003/006
B101/B110

AUTHORS: Tselik, I. N., Turkalov, N. F.

TITLE: Sorption of germanium oxide from aqueous solutions by activated charcoal

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 28, no. 2, 1962, 179-185

TEXT: The possible adsorption of Ge contained in the water of coal mines (up to 2-3 mg/m³) by BAU-1 (BAU-1) activated birch charcoal was studied. Preliminary experiments had shown that the removal of ashes (3.1%) from coal by boiling with HCl did not affect the sorptive power (1.1%) of coal for Ge. I. Static sorption took place when stirring at 25°C with 3 g of coal and at a solid-to-liquid ratio of 1:25. Results: (1) Equilibrium was reached after 2 hrs at an initial Ge concentration, C_o, of 0.00551-0.055 mmoles/l, and 89% of Ge was sorbed. At C_o = 0.3443 mmoles/l, equilibrium was established within 2.5-3 hrs, and up to 63% of Ge was sorbed. (2) $a = 0.0178C^{0.583}$ (a = degree of sorption) holds for the sorption isotherms of Ge on BAU-1. (3) Experiments at pH = 2-10 and C_o = 0.0275 mmoles/l showed optimum sorption at pH = 7 (approximately

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$60 \cdot 10^{-5}$ mmoles/g of coal). (4) Sorption of Ge decreases linearly with increasing temperature. II. Using a column of adsorbers with BAU-1, the validity of N. A. Shilov's and M. M. Dubinin's equation $\theta = KL - \tau$ (θ = period of action of the protective effect; K = coefficient, min/cm; L = length of the sorbent layer; τ = moment at which the protective effect ceases, (penetration of gas through the sorbent), min) for the sorption of Ge from solutions was checked under dynamical conditions. The GeO_2 solution (C_o = 0.3443 mmoles/l) was added from below, and the moment of Ge passage was determined for every adsorber. Experimental conditions: 20-22°C, volume rate V_1 = 4 l/min/m^2, V_2 = 6.8 l/min/m^2. Results obtained for V_1: K = 14.5 min/cm, τ = 125 min; for V_2: K = 8.5 min/cm, τ = 85 min. It was found that $\tau = V^n$ = const; n = 0.66; KV = const = ~58, from which the parameters of a sorption column can be calculated. Complete extraction of Ge can be achieved using several columns with alternate sorption and desorption in a closed cycle. There are 10 figures and 4 tables.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR (Institute of General and Inorganic Chemistry AS UkrSSR)

SUBMITTED: April 23, 1960

Card 2/2

TSELIK, P.

If you accept obligations you must carry them out. Sel'.mekh. no.3:29 '62. (MIRA 15:3)

1. Azovskiy zernosovkhoz Omskoy oblasti.
(Plowing)

ACCESSION NR: AP4038930 S/0068/64/000/005/0042/0044

AUTHOR: Gromov, Ye. I.; Cherkashin, V. N.; Tselik, V. Ye.

TITLE: Corrosion activity of ammonium and sodium rhodanates

SOURCE: Koks i khimiya, no. 5, 1964, 42-44

TOPIC TAGS: sodium rhodanate, ammonium rhodanate, steel corrosion, rhodanates steel corrosion, thiocyanate steel corrosion, synthetic fiber

ABSTRACT: This work was prompted by the planned increase of synthetic fiber production requiring increasing amounts of sodium and ammonium rhodanates. Their preparation from isocyantes involves steel equipment, namely, dissociators and evaporators. Therefore, a study was made to ascertain the corrosion of different types of steel in this equipment. As a result of their tests, the authors found the corrosion rate of steels St3, 1Kh13, Kh17T, 1Kh18N9T, EI530, Kh18N12M3T and EI629, depending on temperature and ammonium rhodanate concentration. With increasing temperature and salt concentration, steel corrosion rises markedly for types St3, 1Kh13, Kh17T, 1Kh18N9T. The authors have found the corrosion of steels St3, 25KhGSA, 1Kh13, 1Kh18N9T, Kh18N12M3T and EI629 versus the pH of sodium

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ACCESSION NR: AP4038930

rhodanate running from 1.8 to 8.65. Along with decreasing pH of the solution, the corrosion rate of St3, 25KhGSA and 1Kh13 abruptly increases. ATM (=antifriction thermoconductive material: a combination of graphite and phenolformaldehyde resin) can be used as material for the dissociator in the production of ammonium rhodanate. The best material for pure salt separation equipment is the Kh18N12M3T stainless steel, while for the absorption equipment steels Kh27 and 1Kh18N9T are recommended, likewise steel 0kh13. Orig. art. has: 2 figures and 3 tables.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 05Jun64 ENCL: 00

SUB CODE: MT, MM NO REF SOV: 002 OTHER: 000

Card 2/2

USSR/Cultivated Plants - Technical, Oil-..., Saccharifer... A-7

Abs Jour : ... - Biol., No 9, 1958, 39425

Author : Tsalik, V.Z.

Inst : All-Union Scientific Research Institute of East Cultivation

Title : ... and Properties of Chaff and of the Unripe Seeds of ...

Orig Pub : Tr. Vses. n. i. in-t Lub. Kul'tur, 1957, vyp. 22, 206-212.

Abstract : No abstract.

Card 1/1

USSR / Cultivated Plants. Fodders. M-4

Abs Jour: Ref Zhur-Biol., No 6, 1958, 25088

Author : Demkin, A. P., Tselik, V. Z.
Inst : Not given
Title : Planting Clover in the Polessk Rayons of Ukrainia

Orig Pub: Zemledeliye, 1957, No 4, 72-73

Abstract: The Glukhovskiy Dvukosnyy, a local clover variety, has long been renowned in Glukhovskiy Rayon of Sumskaya Oblast'. In the past 12 years a drastic drop in clover output has been noted 6 times. The hay yield was reduced to 10 centners per ha. The chief reason for this reduction is its deterioration as a population. Its seeds start to be used in its first year, hence by 1947 already there were 40% summer forms in the Glukhovskiy clover. A systematic seed raising project is required to remove

Card 1/2

TIMONIN, M.A., kand. tekhn. nauk; SENCHENKO, G.I., kand. sel'-khoz. nauk; ARINSHTEYN, A.I., kand. sel'khoz. nauk; GORSHKOV, P.A., doktor sel'khoz. nauk; ZHUKOV, M.S., kand. sel'khoz. nauk; DEMKIN, A.P., kand. sel'khoz. nauk; KRASHENINNIKOV, N.A., kand. sel'khoz. nauk; GORODNIY, N.G., doktor sel'khoz.nauk; REYYAKH, I.I., nauchn. sotr.; PIL'NIK, V.I., kand. sel'khoz.nauk; KHANIN, M.D., kand. sel'khoz. nauk; TSELIK, V.Z., st. nauchn. sotr.[deceased]; KOZINETS, N.I., nauchn. sotr.; ZHALNINA, L.S., nauchn. sotr.; LYASHENKO, S.N., kand. sel'khoz. nauk; GONCHAROV, G.I., inzh.; BUYANOV, V.I., inzh.; RUDNIKOV, V.N., st. nauchn. sotr.; BLOKHINA, V.V., red.; PROKOF'YEVA, A.N., tekhn.red.; SOKOLOVA,N.N., tekhn.red.

[Hemp] Konoplia. Moskva, Sel'khozizdat, 1963. 462 p. (MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lubyanykh kul'tur (for all except Blokhina, Prokof'yeva, Sokolova).

(Hemp)

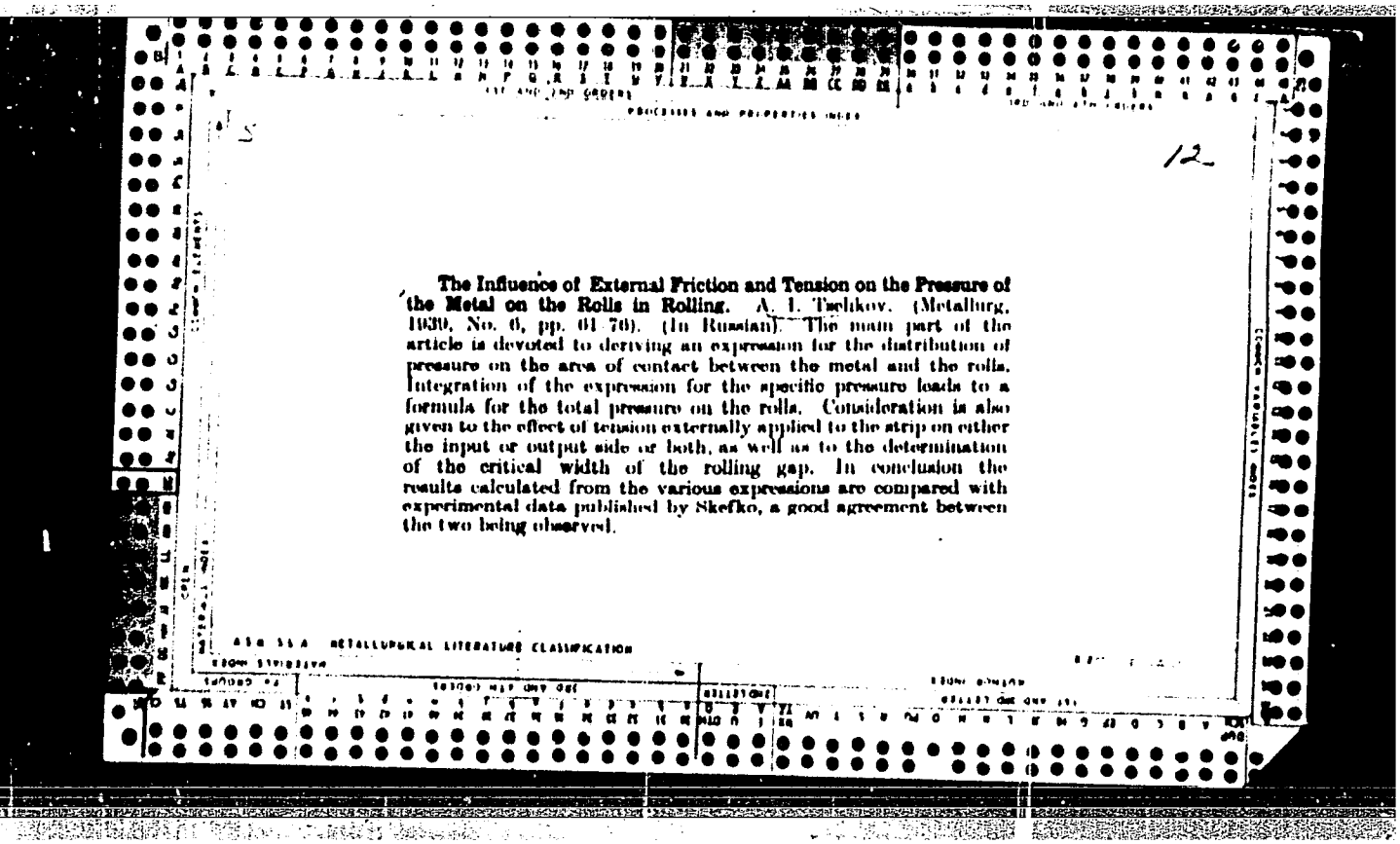
VOLYNKIN, Yu.M.; YAZLOVSKIY, V.I., prof.; GENIN, A.M.; GAZENKO, O.G.; GUROVSKIY, N.N.; YEMEL'YANOV, M.D.; MIKHAYLOVSKIY, G.P.; GORBOV, F.D.; SERYAPIN, A.D.; BAYEVSKIY, R.M.; ALTUKHOV, G.V.; KOPANEV, V.I.; KAS'YAN, I.I.; MYASNIKOV, V.I.; TERENT'YEV, V.G.; BRYANOV, I.I.; FEDOROV, Ye.A.; FOMIN, V.S.; ARUTYUNOV, G.A.; ANTIPOV, V.V.; KOTOVSKAYA, A.R.; KAKURIN, L.I.; TSELIKIN, Ye.Ye.; USHAKOV, A.S.; VOLOVICH, V.G.; SAKSONOV, P.P.; YEGOROV, A.D.; NEUMYVAKIN, I.P.; TALAPIN, V.F.; SISAKYAN, N.M., akademik, red.; KOLPAKOVA, Ye.A., red.izd-va; ASTAF'YEVA, G.A., tekhn.red.

[First group space flight; scientific results of medical and biological studies carried out during the group orbital flight of manned satellites "Vostok-3" and "Vostok-4] Pervyi gruppovoi kosmicheskii polet; nauchnye rezul'taty mediko-biologicheskikh issledovanii, provedennykh vo vremia gruppovogo orbital'nogo poleta korablei-sputnikov "Vostok-3" i "Voskot-4." Moskva, Izd-vo "Nauka," 1964. 153 p. (MIRA 17:3)

KLIMENTOVSKAYA, A.Ye.; KOZLOVA, A.P., TSELIKINA, V.V.

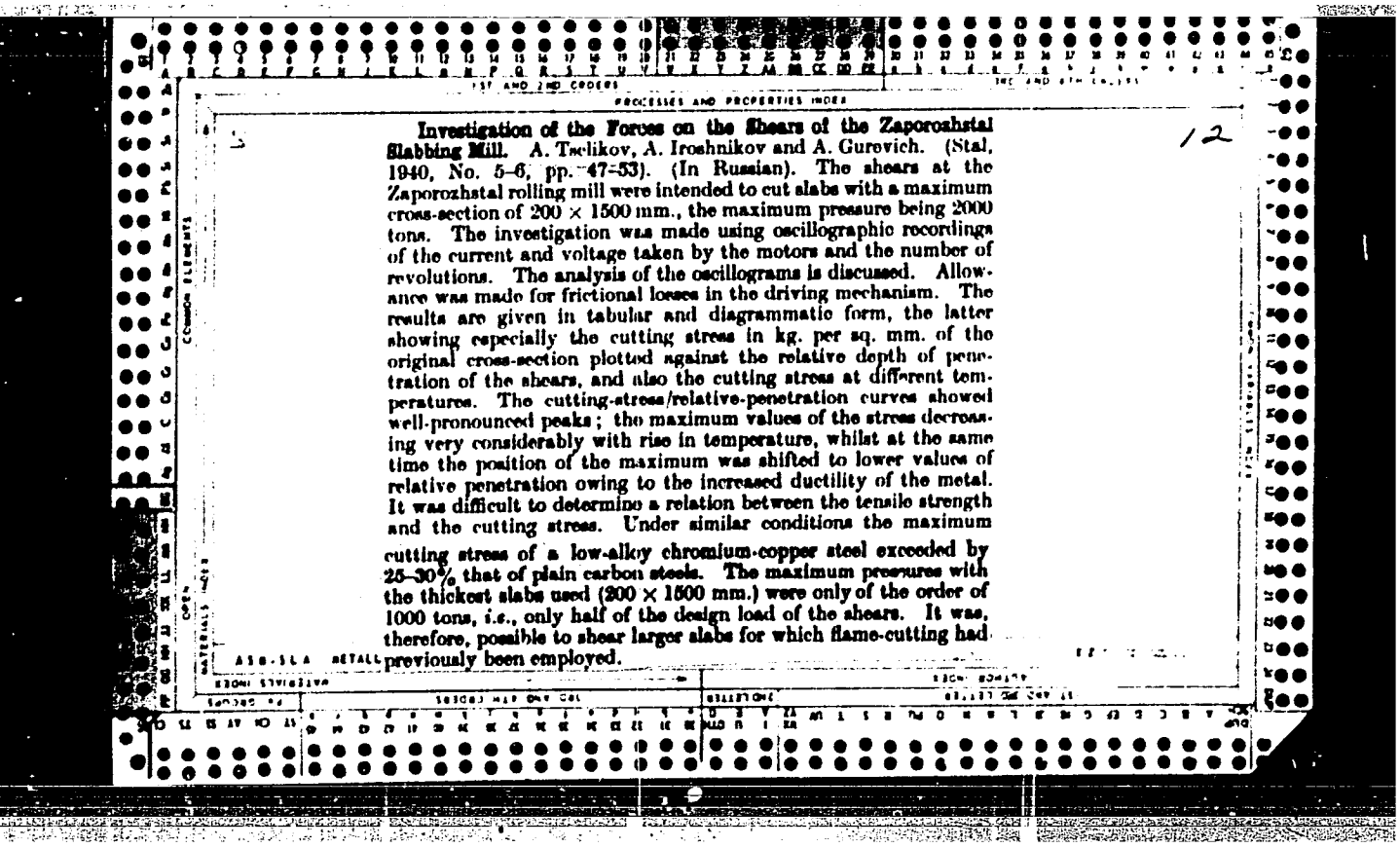
Effect of chronic poisoning with zinc compounds on the amino groups of tissue proteins. Nauch. trudy Ryaz. med. inst. 14:34-38 '62. (MIRA 17:5)

1. Kafedra biologicheskoy khimii (zav. kafedroy - prof. G.A.Uzbekov) Ryazanskogo meditsinskogo instituta imeni Pavlova.



12

The Influence of External Friction and Tension on the Pressure of the Metal on the Rolls in Rolling. A. I. Tselikov. (Metallurg, 1939, No. 6, pp. 61-70). (In Russian). The main part of the article is devoted to deriving an expression for the distribution of pressure on the area of contact between the metal and the rolls. Integration of the expression for the specific pressure leads to a formula for the total pressure on the rolls. Consideration is also given to the effect of tension externally applied to the strip on either the input or output side or both, as well as to the determination of the critical width of the rolling gap. In conclusion the results calculated from the various expressions are compared with experimental data published by Skefko, a good agreement between the two being observed.



Investigation of the Forces on the Shears of the Zaporozhstal Slabbing Mill. A. Tselikov, A. Iroshnikov and A. Gurevich. (Stal, 1940, No. 5–6, pp. 47–53). (In Russian). The shears at the Zaporozhstal rolling mill were intended to cut slabs with a maximum cross-section of 200 × 1500 mm., the maximum pressure being 2000 tons. The investigation was made using oscillographic recordings of the current and voltage taken by the motors and the number of revolutions. The analysis of the oscillograms is discussed. Allowance was made for frictional losses in the driving mechanism. The results are given in tabular and diagrammatic form, the latter showing especially the cutting stress in kg. per sq. mm. of the original cross-section plotted against the relative depth of penetration of the shears, and also the cutting stress at different temperatures. The cutting-stress/relative-penetration curves showed well-pronounced peaks; the maximum values of the stress decreasing very considerably with rise in temperature, whilst at the same time the position of the maximum was shifted to lower values of relative penetration owing to the increased ductility of the metal. It was difficult to determine a relation between the tensile strength and the cutting stress. Under similar conditions the maximum cutting stress of a low-alloy chromium-copper steel exceeded by 25–30% that of plain carbon steels. The maximum pressures with the thickest slabs used (200 × 1500 mm.) were only of the order of 1000 tons, i.e., only half of the design load of the shears. It was, therefore, possible to shear larger slabs for which flame-cutting had previously been employed.

Tselikov, A. I.

"Simplification of the Method of Calculation of the Influence of Tension on the Pressure in Rolling", Stal', 1945, Nr 6, p 209.

TSELIKOV, A. I.

Prokatnye stany. Dop. ... v kachestve uchebnika dlia metallurgicheskikh institutov. Moskva, Metallurgizdat, 1946, 1946. 560 p. diagrs.

Bibliography: p. 550-556.

Rolling mills.

DLC: TS340.T74

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

REVIN, I.A.; CHAYKA, V.Kh.; RUSTANOVICH, V.A., otvetstvennyy redaktor; TSELIKOV, A.I., nauchnyy redaktor; GRAKOVA, Ye.D., tekhnicheskiy redaktor

[Steel industry equipment; a catalog and reference book] Metallurgicheskoe oborudovanie; katalog-spravochnik. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry. Vol.3. 1947. 299 p. (MLRA 9:9) [Microfilm]

1. Russia (1923- U.S.S.R.) Ministerstvo tyazhelogo mashinostroyeniya. Tekhnicheskiy otdel.
(Rolling mills)

TSELIKOV, A. I.

IA 23T8

USSR/Electricity Sep 1947
Mathematics - Applied

"Selection of Gear Ratio for Electrical Apparatus Acting as Auxiliary Equipment for Mills," A. I. Tselikov, TsNIITMASh, N. P. Kunitskiy, MVTU imeni Bauman, 3 pp

"Vestnik Elektro-Promyshlennosti" No 9

Purely mathematical discussion of gear ratios. Contains several mathematical formulas for the calculation of various ratios and a graph which shows theoretical data obtained in the course of research by the authors.

23T8

1. TSELIKOV, A.DR., ANISIFOROV, V.

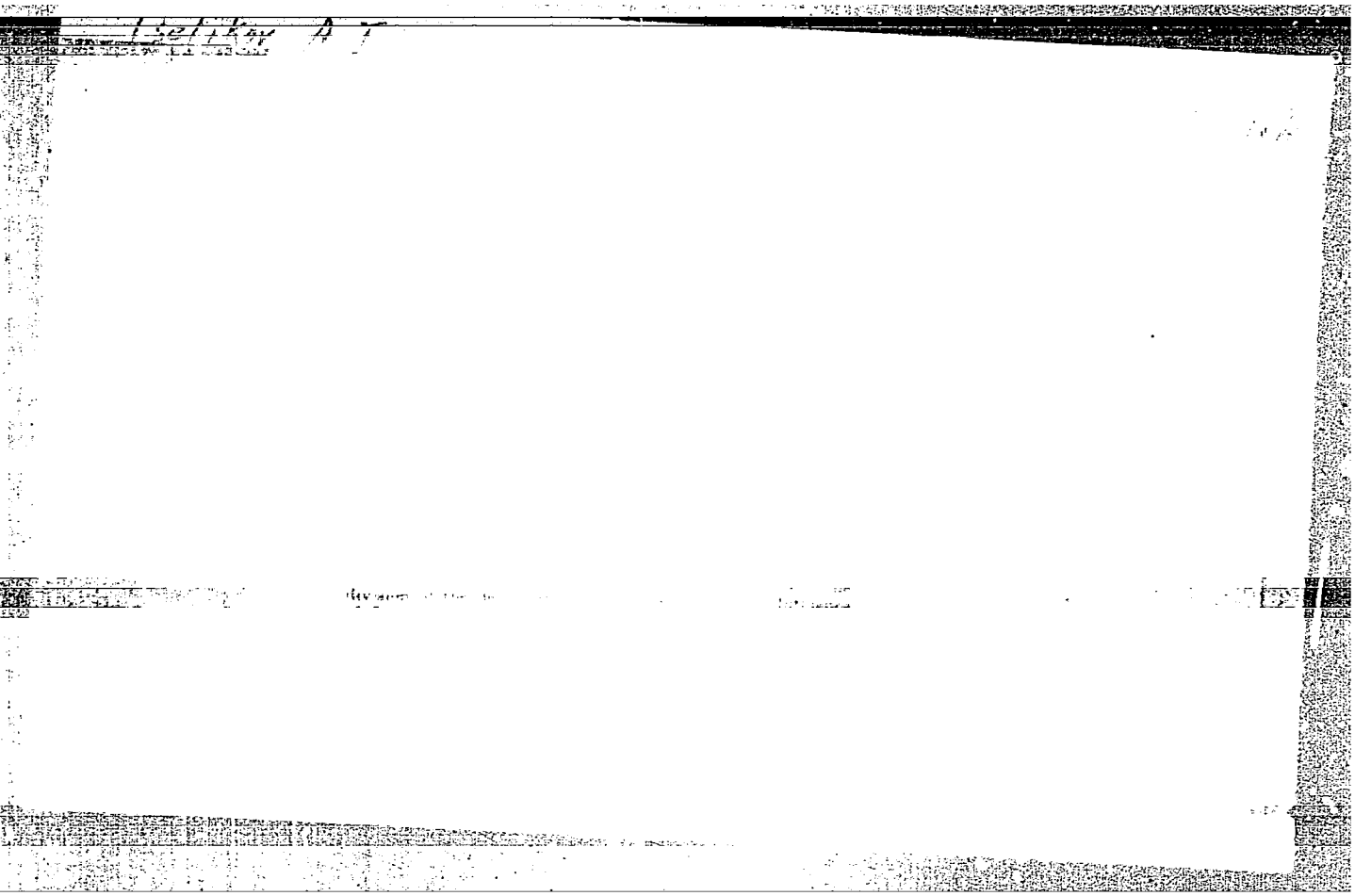
2. USSR (600)

4. Rolling (Metalwork)

7. New technology of rolling recurring profiles and metal savings. Za. ekon.mat. no.5 1952

Evaluation B-66181

9. Monthly List of Russian Accessions, Library of Congress, March,1953.Unclassified.



TSELIKOV, A.I., doktor tekhnicheskikh nauk, professor, laureat Stalinskoy premii.

Tasks concerning the design of rolling mills of increased efficiency.
Vest.mash. 33 no.6:20-25 Je '53. (MLRA 6:6)
(Rolling mills)

Tselikov, A. I.

USSR/ Engineering - Structural tests

Card 1/1 Pub. 128 - 3/34

Authors : Tselikov, A. I., and Tretyanov, A. V.

Title : The calculation of the metal pressure on rollers during its cold rolling by taking into account the stress and cold-hardening of metal

Periodical : Vest. mash. 12, 10-12, Dec 1954

Abstract : Formulas for calculating the stress and cold-hardening of metals and the influence of the Above mentioned characteristics on the pressure of metal during its cold-rolling process are given. Four USSR references (1939-1951). Table; diagrams; graphs.

Institution : .....

Submitted : .....

TSEI IKOV, A. I.

USSR/ Engineering - Rolling-mill construction

Card : 1/1

Authors : Tselikov, A. I., Corres. Memb. of the Acad. os Sc. of the USSR, Laureate of the Stalin Prize

Title : Distribution of torque among the rollers of a rolling mill.

Periodical : Vest. Mash., 34, Ed. 6, 23 - 24, June 1954

Abstract : This article consists largely of comments on the article by Nikitin entitled, "Distribution of Power in the Mechanism of a Rolling Mill under Numerical Inequality of Circumferential Speeds of its Rollers." Inequality of circumferential speeds is found to be objectionable because of the stress and strain on one of the bearings and friction. It is, however, used where bending of the metal is required. The author considers that any treatment of the problem of inequality of circumferential speeds must involve the question of the effect on the metal which is being worked. Drawings.

Institution : ...

Submitted : ...

TSelikov, M.I.

KOROLEV, A.A., kandidat tekhnicheskikh nauk; KOGOS, A.M.; TOKARSKIY, A.P., NOSAL', V.V. GUREVICH, A.Ye., SHVARTSMAN, V.F.; KARPOV, V.F.; SHUL'MAN, P.G.; ADAMOVICH, N.K.; CHETYREOK, F.M.; TSILIKOV, A.I., KUZ'MIN, A.D., kandidat tekhnicheskikh nauk; TIKHONOV, A.Ya., tekhnicheskiy redaktor.

[Blooming mill 1000] Bliuming 1000. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1955. 271 p. (MLRA 8:8)

1. Chlen-korrespondent AN SSSR (for TSelikov)
(Rolling mills)

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 136 (USSR) SOV/124-57-5-5958

AUTHOR: Tselikov, A. I.

TITLE: Determining the Mean Rates of Strain Produced by Rolling and Drawing (Opredeleniye srednikh skorostey deformatsii pri prokatke i volochenii)

PERIODICAL: V sb.: Prokatnyye stany i tekhnologiya prokatki. Moscow, Mashgiz, 1955, pp 7-13

ABSTRACT: The author criticizes the formulas evolved by S. Ekelund and N. Kreyndlin [Raschet obzhatiy pri prokatke listov i lent iz tsvetnykh metallov i splavov (Rolling-reduction Analysis of Nonferrous-metal and Alloy Sheet and Strip), Metallurgizdat, 1950] for determining the rate of deformation induced in a metal by rolling; he states that these formulas do not make due allowance for the speed of the rolls. An expression for the actual rate of deformation is evolved, and the mean rate of deformation is determined. The formulas of S. I. Gubkin (Izv. AN SSSR, Otd. tekhn. n., 1947, Nr 1), of Shveykin (Stal', 1953, Nr 10), and of Nedoviziya and Tarnovskiy [Skorostnoye volocheniye nizkouglerodistoy stal'noy provoloki (High-speed Drawing

Card 1/2

Determining the Mean Rates of Strain Produced by Rolling and Drawing

of Low-carbon-steel Wire). Metallurgizdat, 1954] for determining the rate of deformation induced in a metal by drawing are criticized also; in these formulas the rate of deformation is determined as the ratio of the degree of reduction that the metal undergoes to the time that it spends in the zone of active deformation. The rate of deformation is determined at each point of the area of active deformation, and from these determinations the mean rate of deformation is computed. An analogous method is used to evolve an equation with which to calculate the rate of deformation in tubing being drawn on short or long cylindrical mandrels.

V. G. Osipov

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 1, p. 214 (USSR) 112-1-1401

AUTHOR: Tselikov, A.I.

TITLE: Automation of Production Processes in Machine Building by Way of Rolling (Avtomatizatsiya tekhnologicheskikh protsessov v mashinostroyenii putem primeneniya prokatki)

PERIODICAL: Sbornik: Avtomatizatsiya tekhnol. protsessov v mashinostr. Goryachaya obrabotka metallov, Moscow, AN SSSR, 1955, pp.22-34.

ABSTRACT: Bibliographic entry.

Card 1/1

SOV/124-58-1-1022

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 134 (USSR)

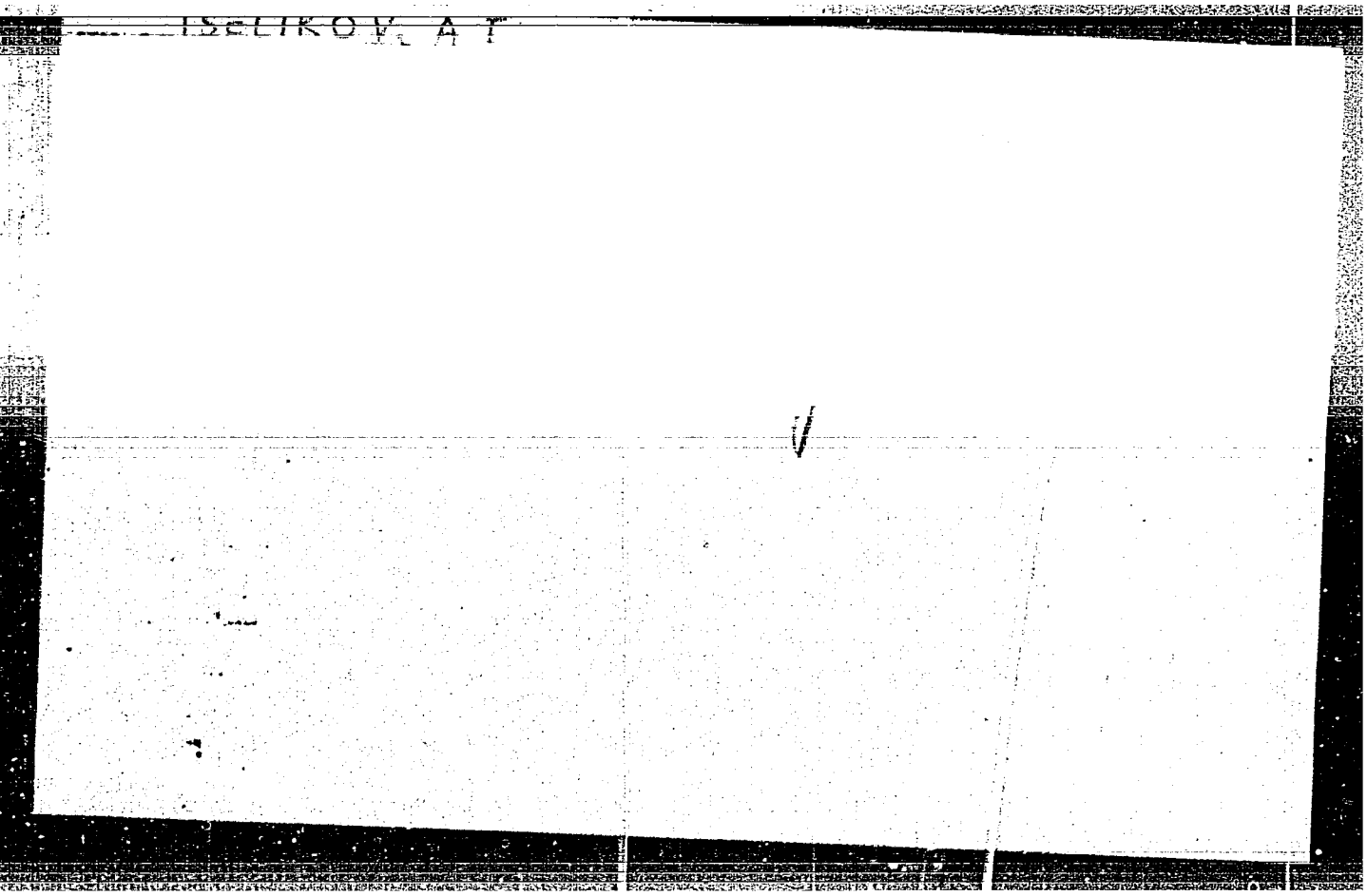
AUTHOR: Tselikov, A. I.

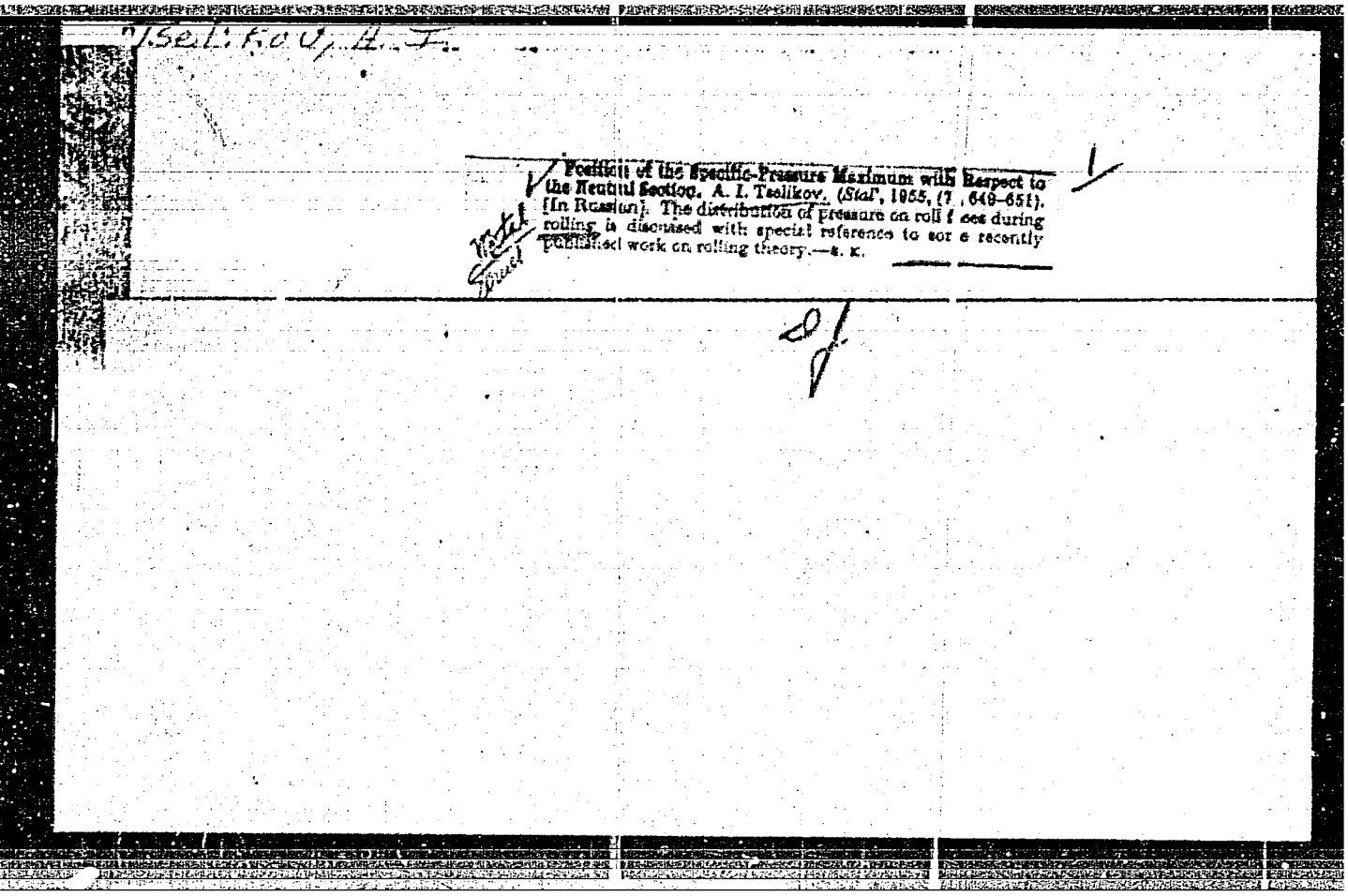
TITLE: On the Sectionwise Strain Distribution in Rolled Metal (To the Reviews of the Discussion "On the Theory of the Rigid Ends") [O raspredelenii deformatsii po secheniyu prokatyvayemogo metalla (K itogam diskussii "O teorii zhestkikh kontsov")]

PERIODICAL: V sb.: Prokatnyye stany, Nr 5, Moscow, Mashgiz, 1955, pp 217-226

ABSTRACT: Bibliographic entry

Card 1/1





Tselikov, A. I.

Position of the Specific-Pressure Maximum with Respect to the Neutral Section. A. I. Tselikov. (*Stal'*, 1955, (7), 649–651). [In Russian]. The distribution of pressure on roll faces during rolling is discussed with special reference to some recently published work on rolling theory.—E. K.

TSELIKOV, A.I.

New Mill for the Production of Welded Tubes with a Spiral Seam. A. I. Tselikov and A. A. [illegible]. (Stal', 1955, (9), 810-820). [In Russian]. An account is given of preliminary work on the production of large diameter spirally welded tubes from coiled strip and of the newly designed, full-scale mill which is now operating. The mill produces tubes 8-18 m long with external diameters and wall thicknesses of 426 630 and [illegible] mm respectively, from hot-rolled [illegible] strip [illegible] wide in coils weighing [illegible] tons and having external and internal diameters of [illegible] and 750 mm, respectively. The general technology of the process is described and the individual items of equipment are considered. Results of pressure tests on the tubes and data on their deviations from required dimensions are provided.—S. K.

2

3

Met

TSEKLIKOV, A.I.

Determining the average deformation rate in rolling and drawing. [Trudy] MVTU no.62:7-13 '55. (MLRA 9:7)

1.Chlen-korrespondent AN SSSR.
(Rolling (Metalwork)) (Drawing (Metalwork))

TSELIKOV, A.I.; KOROLEV, A.A., kand. tekhn. nauk; TRET'YAKOV, A.V., kand. tekhn. nauk.

New combined multiple roll mill for rolling thin strips. [Trudy] TSNIITMASH 73:5-28 '56. (MIRA 11:3)

1. Chlen-korrespondent AN SSSR (for TSelikov).
(Rolling mills)

TSEKLIKOV, A. I.

Distribution of deformations along the cross sections of rolled metals. [Trudy] TSNIITMASH 73:217-226 '55. (MIRA 11:3)

1. Chlen-korrespondent AN SSSR.
(Rolling (Metalwork)) (Deformations (Mechanics))

TSKLIKOV, A.I.

Formula for precise determination of mean velocity of deformation in rolled metals. [Trudy] TSNIITMASH 73:227-229 '55. (MIRA 11:3)

1. Chlen-korrespondent AN SSSR.
(Rolling (Metalwork)) (Deformations (Mechanics))

SOV/137-57-10-19072

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 92 (USSR)

AUTHOR: Tselikov, A.I., Korolev, A.A., Kuz'min, A.D., Kogos, A.M., Solov'yev, P.I.

TITLE: Cluster-type Rolling Mills Designed by the TsKBMM of the TsNIITMASh (Mnogovalkovyye stany konstruktsii TSKBMM TsNIITMASh)

PERIODICAL: V sb.: Prokatn. stany: Nr 8. Moscow, Mashgiz, 1956, pp 5-26

ABSTRACT: A 12-roll cluster-type mill for the rolling of thin (down to 0.1-mm) and fine (down to 0.05-mm) strip has been designed by the TsKBMM of TsNIITMASh. The mill has a roll and a pinion stand, coilers ahead and behind, and a tapered uncoiler. The roll stand consists of a parallelepipedal cast-iron housing containing a cylindrical bored hole for the roll (R) adapter and two rectangular openings on the sides for the guides. Upper and lower adapters carry three R each and three shafts with four back-up rolls (BR). Of the three R in each adapter, one is of 38 mm diameter and 350 mm body length, and is a working roll, the other two 45-mm are driven intermediate rolls transmitting

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Cluster-type Rolling Mills Designed by the TsKBMM of the TsNIITMASh

pressure from the working R to the 110-mm diam BR. The latter are mounted without play in the adapter chocks, the upper driving and working R being suspended from the upper chock by springs, so that they are alwys compressed against each other and toward the BR, while the bottom chock lies free in the bottom portion of the housing. The pinion stand represents a combination of types. The mill-stand motor is of 100-kw power and runs at 980-1150 rpm. The mill R are of Nr 12KhN2A steel, the H_{sh} of the working surface being 100-105; the driving rolls are of Nr 20KhN3A steel, with an H_{sh} 95-100; the BR are of Nr 9Kh steel. The rolling rate is 1-5 m sec, and the maximum permissible rolling pressure is 35,000 kg. The working and back-up R have circulating lubrication, machine oil being used. The coilers are located on both sides of the mill stand and make it possible to roll with tension both in front and behind. The maximum tension on the strip is 3600 kg, and the diameter of the coiling drum is 300 mm. The coiler motors are of 81.6 hp each. The weight of the mill is 25 t. The following is the rolling flowsheet. Annealed and pickled coils, 0.2-0.5 mm thick and up to 300 mm wide, of steels 0.8, U7A to U12A, EI142, 20S2, 65G, 50KhFA, and others, are delivered to a conical uncoiler and are mounted thereon by a lift table. The end of the strip goes from the uncoiler through the mill R and is fastened to the drum of the rear coiler. The strip is then placed under tension and the

Cluster-type Rolling Mills Designed by the TsKBMM of the TsNIITMASh

rolling rate is increased to the desired level. Before the end of the coil leaves the uncoiler the stand and coiler are switched to servicing speed, and the mill is stopped and reverses itself. The end of the strip is guided into the front coiler and a second pass begins, during which back tension on the strip is provided by switching the coiler motor to generator operation. Rolling continues until 2 or 3 coils are left on the drum of the rear coiler, whereupon the motors are switched to minimum speed, stopped, and reversed for the next pass, etc. The coil of finished strip is taken from the coiler by a special knock-out and is delivered for trimming of the side edges or annealing. 237-mm wide strip of Kh0.5 steel is rolled from 0.37 to 0.105 mm in 6 passes with an 8.7-23% reduction per pass and a single intermediate anneal, R adapters on roller bearings being used. The precision of rolling, based on thickness, for strip not over 0.10 mm thick, is within a tolerance of ±0.005 mm. The average output of the mill is 3.0-3.5 t thin strip per shift.

V.Zh.

SOV/137-57-10-19078

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 93 (USSR)

AUTHOR: Tselikov, A.I.

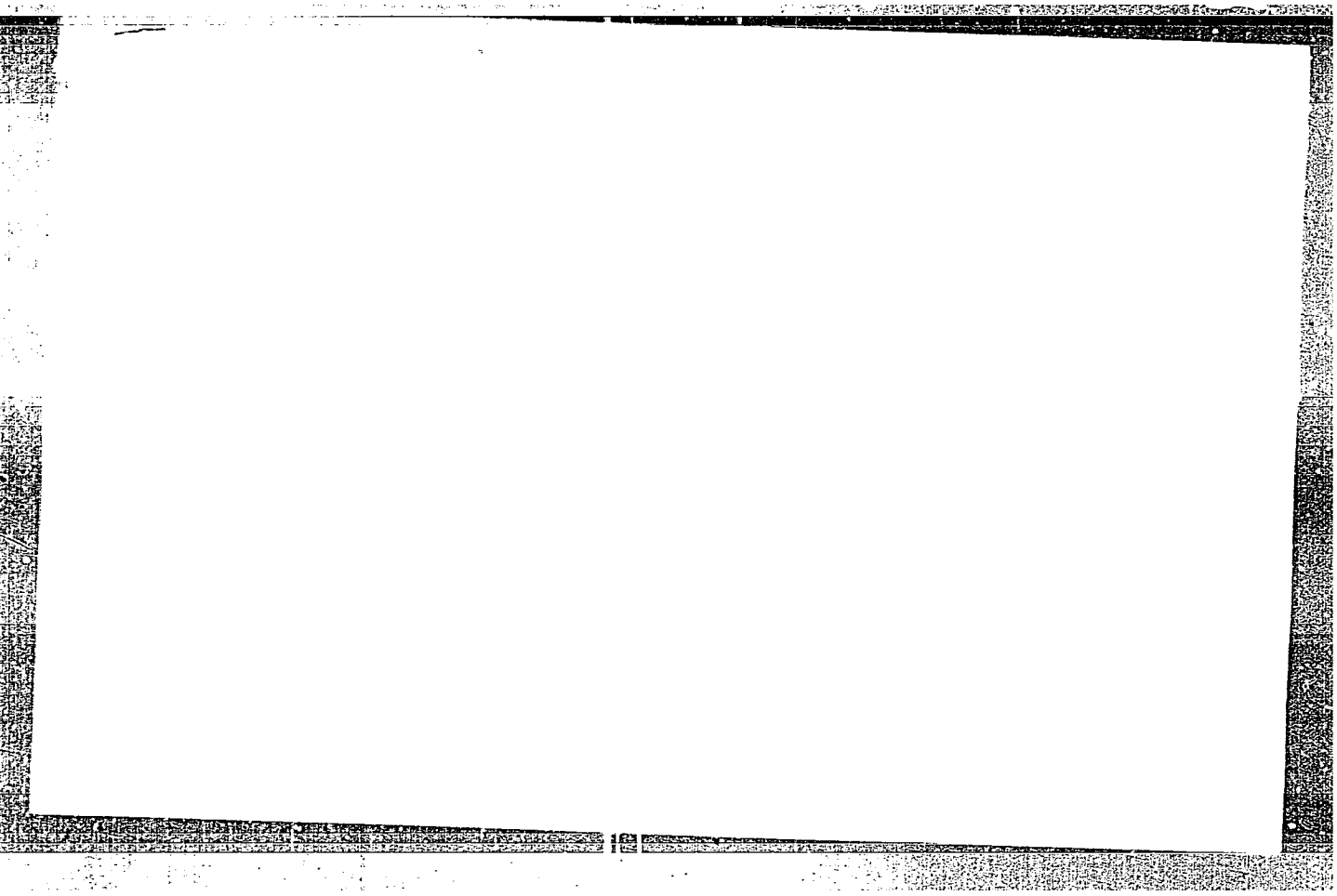
TITLE: ~~A Review of Progress~~ in the Design of Rolling Mills (Obzor dostizheniy v oblasti konstruirovaniya prokatnykh stanov)

PERIODICAL: V sb.: Novoye v konstruirovanii tyazh. mashin. Moscow, Mashgiz, 1956, pp 66-85

ABSTRACT: The central design bureau for metallurgical machinery is engaged in developing fundamentally new types of rolling mills (R) to make consumer goods now being manufactured by less economical methods. The design of a M to roll wide-flanged beams, a continuous 400 bar M, a M to make bent sections, a M to roll ultra-thin strip and thin-walled tubing, a M to produce periodically recurrent sections and various types of M to produce piece products (balls, bushings, gears, etc.). In addition, work has been done and achievements are on record in perfecting designs of rolling M. More complete mechanization and automation of the production processes in rolling has been effected, also increases in the life and the loading capacity of M and reductions in the cost of M manufacture by reduction in weight per t of rolled metal.

S.G

Card 1/1



APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001756930004-6"

TSELIKOV, A. I., (Corr. Mbr. Acad. Sci. USSR); [illegible], A. A., and [illegible], A. D. (Cands. Tech. Sci.; KOGOS, A. A., Engr.; SOKOV'YEV, I. I., Engr.

"Multiple-Roll Mills, Built by TsKBMM TsNIITMASH," p. 5. in book Rolling Mills; Studies, Calculation, Design and Operation, No. 2) Moscow, Mashgiz, 1956. 258 p.

This collection of articles is intended for rolling-mill designers, process engineers, scientists and instructors.. Collection contains 19 articles on researdh and tests conducted by TsKBMM TsNIITMASH in 1945-55. Articles by A. I. Tselikov and others describe the new TsKBMM design for 12 roll mills (built by TsNIITMASH), installed in a number of factories and sucessfully used for rolling thin and extra-thin strips.

137-58-1-618

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 97 (USSR)

AUTHOR: Tselikov, A. I.

TITLE: New Designs for Rolling Mills (Novyye konstruktsii prokatnykh stanov)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii, 1956, Vol 10, pp 59-76

ABSTRACT: The main trends in the design of rolling mills in recent years are: increase in productivity (P) of rolling mills accompanied by reduction in overall dimensions and weight of equipment; development of mill designs making it possible to roll new and more rational grades of rolled products and various types of products for which there is a mass market; the use of the most complete possible mechanization and automation of the production processes; perfection of the designs of rolling mills and systems for their automation with the object of producing rolled products having the closest possible tolerances. The most effective method for increasing P of rolling mills is transition to higher rolling speeds, which is capable of providing an unlimited increase in P when continuous mills

Card 1/2

New Designs for Rolling Mills

are used. The mastering and expansion of the production of very thin steel foil (0.01-0.1 mm) is one of the urgent problems of the iron and steel industry. Special cross-rolling mills designed by the TsKBMM have made it possible, for the first time in world practice, to produce steel balls needed in large quantities for the bearing industry and for the milling of various kinds of material in ball mills. At the TsKBMM TsNIITMASh there have been developed 4 models of industrial mills for the production of periodic profiles of diameters up to 15, 80, 120 and 250 mm. Two mills have already gone into operation: one at the Kolomna Works to produce stems for textile spindles and the second at the MZMA to produce axle halves and other parts and blanks for automobiles. Installation of the 250 mill to roll railway car axles, with an annual P of about 300,000 units, will save 20,000-25,000 t per year.

1. Rolling mills--Design

B. Ye.

Card 2/2

TSELIKOV, A.I.; KOROLEV, A.A., kandidat tekhnicheskikh nauk; KUZ'MIN, A.D., kandidat tekhnicheskikh nauk; BOROS, A.M., inzhener; SOLOV'YEV, P.I., inzhener.

Multiple-stand rolling mill designed by the Central Bureau for the Design on Metalworking Machinery in the Central Scientific Research Institute of Technology and Machine Building. [Trudy] TSNIITMASH no.83:5-26 '56. (MLRA 10:9)

1. Chlen-korrespondent AN SSSR (for TSelikov).
(Mechanical engineering) (Rolling mills)

TSELIKOV, A.I.

SOV/292

PHASE I BOOK EXPLOITATION

Moscow. Vysshaye tekhnicheskoye uchilishche. Kafedra "Mashiny i tekhnologiya prokatki i volocheniya"

Prokatnyye stany i tekhnologiya prokatki; sbornik statey (Rolling Mills and Methods of Rolling; Collection of Articles) Moscow, Mashgiz, 1957. 125 p. (Series: Moscow. Vysshaye tekhnicheskoye uchilishche. /Trudy/ vyp. 80) 4,000 copies printed.

Ed.: M.L. Zaroshchinskiy, Doctor of Technical Sciences, Professor; Tech. Ed.: Ye.N. Matveyeva; Managing Ed. for Literature on Heavy Machine Building: Ya.S. Golovin, Engineer.

PURPOSE: This collection of articles is intended for the personnel of scientific research institutes, engineers, designers, teachers and students specializing in rolling methods and the building of rolling mill machinery.

COVERAGE: Theoretical and experimental studies done by the scientific workers of the department of "Machinery and methods of rolling and drawing" of MVTU (Moscow Higher Technical School) imeni Bauman are published in this collection.

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Rolling Mills and Methods of Rolling

The articles deal with the following topics: spreading of stock in rolling and distribution of stresses and spread along the width of the stock, resistance to deformation in metal forming, change of the form of the strip depending on dimensions of the contact area in rolling in plain rolls; the theory of elastoplastic bending of a strip during straightening on a multiroll machine, investigation of basic parameters characterizing the resistance of material to rolling; simplified formula for spreading, and measuring unit pressure along the arc of contact using strain gages. No personalities are mentioned. There are 41 references, 39 Soviet and 2 English.

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Rolling Mills and Methods of Rolling SOV/292

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Rolling Mills and Methods of Rolling

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5/25/59

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137-58-6-12137

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 137 (USSR)

AUTHOR: Tselikov, A.I.

TITLE: How Marginal Zones Affect the Widening of a Rolled Strip and Influence the Distribution of Velocities and Stresses Throughout its Width (Vliyaniye vneshnikh zon na ushireniye i raspredeleniye skorostey i napryazheniy po shirine prokatyvayemoy polosy)

PERIODICAL: V sb.: Prokatn. stany i tekhnol. prokatki. (MVTU, 80), Moscow, Mashgiz, 1957, pp 5-21

ABSTRACT: On the basis of a theoretical analysis of the process of deformation (D) during rolling and on the strength of experiments performed it has been established that the widening (W) of a strip is strongly influenced by the marginal zones on the edges of which considerable tensile stresses (S) occur. Consequently, the approach employed by many researchers in considering the process of W as a break-off of these zones on the basis of general geometrical concepts is not correct in principle. As a result of its widening two centers of tensile S's appear on the edge of a strip being rolled. The first of these centers is located immediately before the point at which the strip enters into the

Card 1/2

How Marginal Zones Affect the Widening of a Rolled Strip (cont.)

rolls; these S's diminish in the zone of deformation contact, become greater immediately after the exit from the rolls, and, finally, diminish again. The existence of these tensile S's on the edges of the marginal zones in the vicinity of the zone of contact D points to inevitability of longitudinal D of the marginal zones, in connection with which the distribution of velocities across the width of the strip when it enters and leaves the rolls will not be uniform. Consequently, the basic postulate of I.M. Pavlov's theory of rigid margins, which states that the D and the velocities on the cross section of a strip are uniformly distributed, must be regarded as incorrect in principle, not only with regard to the distribution of D and velocities throughout the height, but across the width of the strip as well. In order to determine the W at reductions $\Delta h/h_0 < 0.9$ it is recommended that the following formula be employed, which yields sufficiently accurate results for all practical computations: $\Delta b/\Delta h = c(2\sqrt{r}/\Delta h - 1/\mu)[0.138(\Delta h/h_0)^2 + 0.323\Delta h/h_0]$. where c is a coefficient which depends on the ratio of the original width to the length of the arc of seizure and which is determined from the formula shown or from a graph; r is the radius of the roll; μ is the coefficient of friction. Compared with existing methods, the method proposed for computation of the W makes it possible to obtain more accurate results and permits to analyze more thoroughly various factors affecting the W by taking into account the S's which arise in the marginal zones. Ye.P.

Card 2/2 1. Metals--Deformation 2. Metals--Processing 3. Rolling mills--Applica ...

SOV/124-58-11-13506

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 11, p 220 (USSR)

AUTHORS: Tselikov, A. I., Persiyantsev, V. A.

TITLE: Consideration of the Effect of Work Hardening on the Strain Resistance in Incipient Recrystallization Processes (Uchet vliyaniya naklepa na soprotivleniye deformatsii v zarekristallizatsionnykh protsessakh)

PERIODICAL: V sb.: Prokatn. stany i tekhnol. prokatki. (MVTU, Nr 80). Moscow, Mashgiz, 1957, pp 22-34

ABSTRACT: It is established that in rapidly proceeding incipient recrystallization processes, as well as during cold working, the actual value of the strain exerts an independent influence on the magnitude of the true stress S_{true}. A radial diagram of true stresses is provided, wherein the relationship of S_{true} as against the length of time of stress exposure of the deformation process is shown in approximated form. An equation is adduced showing the influences on the strain resistance of three factors, namely, the strain rate, the strain value, and the relaxation rate. The use of the proposed equation enables one, starting from two experimentally known points, to determine the true stresses corresponding to other strain rates and other strain values. I. A. Razov

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TS 1/1 A I

137-58-1-738

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 109 (USSR)

AUTHOR: Tselikov, A. I.

TITLE: Automation of Pressworking by Using Continuous Processes (Avtomatizatsiya obrabotki davleniyem putem primeneniya nepreryvnykh protsessov)

PERIODICAL: V sb.: Sessiya AN SSSR po nauchn. probl. avtomatiz. proiz-va. Kompleksn. avtomatiz. proizv. protsessov. Moscow, AN SSR, 1957, pp 139-159

ABSTRACT: Problems of automation (A) in the manufacture of forgings by continuous pressworking of metal in special machine tools are examined. The advantages of A processes are an increase in productivity, an improvement in quality, and reduction in the cost of the product. For example, the productivity of a machine for making tooth gears is 25-70 times higher than that of a tooth milling machine, while the fatigue strength of the teeth is increased by 50 percent. Processes of helical cross rolling of balls and sleeves, and rolling with elongation of stepped axles, shafts and similar products are described. Problems of A of the rolling and drawing processes are examined.

Ya.O.

Card 1/1

1. Forging presses--Automation 2. Machine tools--Production

[illegible], A.I.

TSELIKOV, A.I.; DRUZHININ, N.N., kandidat tekhnicheskikh nauk; FILATOV, A.S., kandidat tekhnicheskikh nauk.

Automatization of new rolling mills. Mashinostroitel' no.2: 1-11 F '57. (MLRA 10:5)

1. Chlen-korrespondent AN SSSR (for TSelikov).
(Rolling mills) (Automatic control)

TSELIKOV, A. I., (Corr. Mem.)

"Automation of Working by Pressure by Means of Continuous Processes,"

paper read at the Session of the Acad. Sci. USSR, on Scientific Problems of Automatic Production, 15-20 October 1956.
Avtomatika i telemekhanika, No. 2, P. 182-192, 1957.

9015229

AUTHOR: Tselikov, A. I., Correspondent Member of the Ac.Sc. of the U.S.S.R. and Sonin, A.L., Cand. Tech. Sc. (TsNIITMASh). 379

TITLE: Coiling and uncoiling of hot rolled strip up to 12 mm thick. (Svertyvaniye v rulony i razmetyvaniye goryachekattannykh polos tolshchinoy do 12 mm).

PERIODICAL: "Stal'" (Steel), 1957, No.4, pp.374-377 (U.S.S.R.)

ABSTRACT: In view of the designing of new continuous strip rolling mills in the USSR, some experiments in coiling and uncoiling of strip 12 mm thick were carried out. Uncoiling was carried out on the machine shown in Fig.1 according to five different schemes (Fig.2). It was established that coiling of hot rolled strip from low carbon steel up to 12 mm thick and their subsequent uncoiling when cold is possible. Thick sheets so obtained possessed a smooth surface. Metallographic and mechanical tests indicated that sheets satisfy standards group II G' (deep drawing) and group II from the aspect of surface quality. Uncoiling of strip 2-4 mm thick from the same steels is accompanied by the appearance of lateral folds. This can be prevented by the application of tension during uncoiling or by dressing with reduction of 1.5-3%. There are four figures and three Russian references.

137-58-1-619

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 97 (USSR)

AUTHORS: Tselikov, A. I., Zhavoronkov, V. A.

TITLE: New Methods of Producing Rolled Products (Novyye metody proizvodstva prokata)

PERIODICAL: Mekhaniz. trudoyemkikh i tyazh. rabot, 1957, Nr 6, pp 5-9

ABSTRACT: Modern layouts for rolling (R) sheet of variable cross section and hat-section rolling of flanged shapes, the starting material for which is ordinary hot-rolled strip and strip of constant cross section. Blanks for drop-forging may be rolled on mills with rolls the working surfaces of which constitute shaped passes ("periodic" R). Methods of producing shapes of variable cross section economically also include various types of cross and helical R (manufacture of wheels, tires, bands, annular parts with internal grooves and external fins, the milling of threads and channels on products for fastening, transverse R of spur and bevel gears, etc.). The designs of some of these types of rolling mills and practical data on industrial production are adduced.

Card 1/1

V.D.

1. Rolling mills—Operation 2. Rolling mills—Production

TSELIKOV, A.I.

Effect of the outer zones on spread and distribution of speeds and stresses across the strip being rolled. [Trudy] MVTU no.80:5-21 '57. (MIRA 10:12)

1. Chlen-korrespondent AN SSSR.
(Rolling (Metalwork))

TSELIKOV, A.I.; PERSIYANTSEV, V.A., kand.tekhn.nauk

Calculation of the effect of cold working on resistance to deformation in primary recrystallization processes. [Trudy] MVTU no.80:22-34 '57. (MIRA 10:12)

1. Chlen-korrespondent AN SSSR (for TSelikov).
(Rolling (Metalwork)) (Deformations (Mechanics))

TSELIKOV, A.I.

PHASE I BOOK EXPLOITATION 967

Akademiya nauk SSSR. Institut mashinovedeniya. Laboratoriya obrabotki metallov davleniyem

Voprosy obrabotki metallov davleniyem (Problems of Metal Forming) Moscow, Izd-vo AN SSSR, 1958. 85 p. 4,500 copies printed.

Resp. Ed.: Tselikov, A.I., Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: Bankvitser, A.L.; Tech. Ed.: Guseva, I.N.

PURPOSE: This book is intended for scientific research workers and designers in the field of metal forming.

COVERAGE: This book contains 4 articles which discuss various theoretical aspects of metal forming, such as the theory of sheet-metal forming (drawing), the experimental design of complex drawing dies, and data on research work for determining the actual magnitude and character of forces in rolling of metals to achieve maximum utilization of power and reduction of weight of existing rolling equipment and of new machinery under construction.

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967

Problems of Metal Forming

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18(5,6); 25(1) PHASE I BOOK EXPLOITATION SOV/3154

Kommunisticheskaya partiya Sovetskogo Soyuza. Vysshaya partiynaya shkola

Dostizheniya nauki i tekhniki i peredovoy opyt v promyshlennosti i stroitel'-stve. Vyp. 2, chernaya i tsvetnaya metallurgiya (Progress in Science and Technology and Advanced Methods Applied in Industry and Construction. No. 2, Ferrous and Nonferrous Metallurgy) Moscow, Izd-vo VPSh i AON pri TsK KPSS, 1958. 157 p. 22,000 copies printed.

Ed. (Title page): G. I. Pogodin-Alekseyev, Doctor of Technical Sciences, Professor; Ed. (Inside book): G. V. Popova; Tech. Ed.: K. M. Naumov.

PURPOSE: This book is intended for the informed reader and should also be of interest to metallurgists.

COVERAGE: This is a collection of lectures, presumably delivered at the Vysshaya partiynaya shkola (Higher Party School) of the Communist Party, USSR, describing recent advances in the field of metallurgy. The approach is basically nontechnical, though a number of processes are briefly described. Specific ore deposits and metallurgical plants are referred to. Some statistics are given. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

TSELIKOV, A.I., otvetstvennyy red.; GOLOVLEV, V.D., red.izd-va; KASHINA, P.S., tekhn.red.

[Use of pressure in metalwork; reports] Obrabotka metallov davleniem; doklady. Moskva, 1958. 165 p. (MIRA 11:6)

1. Akademiya nauk SSSR. Institut mashinovedeniya.
(Metalwork)

PHASE I BOOK EXPLOITATION SOV/1888

25(1)

Moscow. Vyssheye tekhnicheskoye uchilishche

Prokatnyye stany i tekhnologiya prokatki; sbornik statey (Rolling Mills and Processing by Rolling; Collection of Articles) Moscow, Mashgiz, 1958. 208 p. (Series: Its: [Trudy] 84) Errata slip inserted. 3,000 copies printed.

Ed.: A.I. Tselikov, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: L.A. Osipova; Tech. Ed.: B.I. Model'; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S.Ya. Golovin, Engineer.

PURPOSE: This collection of articles is intended for workers of scientific-research institutes and plants, teachers, aspirants, and students specializing in the field of rolling mill engineering.

COVERAGE: This book is composed of theoretical and experimental works and proceedings presented at MVTU imeni Baumana (Moscow Higher Technical School imeni N.Ye. Bauman) by the Department of Machinery and Processes of Rolling and Drawing. It covers the theory of rolling and manufacturing methods described as new. The articles deal with the problem of determining forces in a planetary mill, the study of the

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process of metal deformation on plain and shaped rolls, continuous cold rolling of pipe, and methods of selecting tools and fixtures for new mills. No personalities are mentioned. References follow each article.

TABLE OF CONTENTS:

TSELIKOV, A.I.

25(2) PHASE I BOOK EXPLOITATION SOV/1329

Tselikov, Aleksandr Ivanovich, Corresponding Member, USSR Academy of Sciences and Viktor Viktorovich Smirnov, Candidate of Technical Sciences, Docent

Prokatnyye stany (Rolling Mills) Moscow, Metallurgizdat, 1958. 432 p. 13,500 copies printed.

Ed.: Korolev, A.A.; Ed. of Publishing House: Sidorov, V.N., Engineer; Tech. Ed.: Islent'yeva, P.G.

PURPOSE: This book is approved by the USSR Ministry of Higher Education as a textbook for metallurgical and for machine-building institutes and may be helpful to machinists, processing engineers, designers and engineers working in manufacturing and in design offices.

COVERAGE: The design and construction of rolling mills, their mechanisms and individual parts are examined in the book. The authors present their own theories on a number of problems pertaining to the field of design loads and design stresses in various kinds of rolling mill machinery. The chapter on lubricating equipment was written by Engineer M.P. Vavilov. The authors thank Docent A. A. Korolev, Candidate of Technical Sciences, for editing the book. Many illustrations are published for the first time; some of them are reprinted from the book written by A. A. Korolev and G. M. Nikolayevskiy, Mekhanicheskoye oborudovaniye prokatnykh tsekhov (Mechanical Equipment

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of Rolling Mills). The names of V.D. Afanas'yev, A. Ye. Gunevich, M.A. Son'kin (TsKBMM) are mentioned as contributors to the field of plate shearing. There are 205 references, of which 156 are Soviet, 41 English and 8 German.

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Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 44 (USSR)

AUTHORS: Ts 'ikov, A., Andreyev, V., Korolev, A.

TITLE: Wh 's New at the British Metallurgical Plants? (Na metallurgicheskikh zavodakh Anglii)

PERIODICAL: Prom-ekon. gaz., 1958, 21 fevr., Nr 23, p 4

ABSTRACT: Bibliographic entry

1. Industrial plants--Gt. Brit. 2. Industrial plants--Development

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SOV/137-59-3-6744

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 258 (USSR)

AUTHORS: Tselikov, A. I., Ritman, R. I.

TITLE: The Principle of Designing Planetary Rolling Mills (Osnovy rascheta planetarnykh prokatnykh stanov)

PERIODICAL: V sb.: Vopr. obrabotki metallov davleniyem. Moscow, AN SSSR, 1958, pp 73-85

ABSTRACT: During rolling (R) in a planetary mill (PM) the reduction of metal is periodic in nature and, therefore, the process is analogous to the process of R in Pilger mills. Owing to this analogy, the assumptions of A. I. Tselikov regarding processes of periodic R may serve as the basis of computing the forces operating during R in PM's. Each working roll (WR) displaces a certain volume of metal, the displacement being governed by the rate of feed, s, per WR: $s = v_o/h_{sep}z$, where v_o is the rate of feed of the slab into the PM; h_{sep} the number of revolutions of the separator, and z the number of WR's. The effect of spread is neglected in the computations. The curve representing the contour of the metal in the contact area is displaced by a distance

Card 1/3 Δx and is called the displaced initial contour; similarly, the

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volume of the metal displaced is called the displaced volume. $\Delta x = s + \Delta s$ In order to determine the displacement Δx of the initial contour, four different instances of R are examined. Since the upper and lower surfaces of metal rolled in PM's exhibit crest formations, the height of the latter and the exit angle formed by the WR's with respect to the metal on the delivery side must be determined. In order to determine the magnitude of the contact area, the length and the position of the contact arc are found as functions of Δx. The direction of the resultant roll pressure, in the case when only one pair of WR's is present in the zone of reduction, is assumed to lie along a straight line connecting the point of application of the resultant pressure with the centers of the contact areas on the working and back-up rolls (BR). The point of application of the resultant pressure is assumed to be at the center of the contact arc, while the center of the contact area is situated at the point of tangency between the WR and BR which had not been deformed. A method and formulas for the determination of the magnitude of relative reduction in PM's are presented From an analogy with the ordinary R process it is assumed that the magnitude of the linear reduction and the value of the original thickness are measured in a direction parallel to a line connecting the centers of both the WR's and BR's. Approximate methods for determining the contact arc and the relative reductions are given. Strain-rate values, R moments,

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and the forces required to push the work into the rolls are determined for a case in which the reduction zone consists only of one pair of WR s.

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TSELIKOV, A. I.

18(0) PHASE I BOOK EXPLOITATION SOV/1728

Akademiya nauk SSSR. Institut metallurgii

Sovremennyye problemy metallurgii (Modern Problems in Metallurgy) Moscow, Izd-vo AN SSSR, 1958. 640 p. 3,000 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Eds. of Publishing House: V.S. Rzhevnikov, and A.N. Dernov; Tech. Ed.: T.V. Polyakova.

PURPOSE: This book is intended for scientific and technical personnel in the field of metallurgy.

COVERAGE: This is a collection of articles on certain aspects of Soviet metallurgy. The book is dedicated to Academician Ivan Pavlovich Bardin on the occasion of his 75th birthday. The book is divided into seven parts. The first part consists of two articles presenting a brief account of the biography and professional activity of the Soviet metallurgist. It includes an article by John Chipman, Nicholas Grant, and John Elliott (M.I.T., USA) describing their meeting with Bardin in Moscow and also his visit to the United States. The second part consists of three articles and deals with raw materials and fuels for the Soviet metallurgical industry. The third part represents the major portion of the book. It consists of 25 articles dealing with the various aspects of the metallurgy of pig iron and steel. The fourth part consists of two articles treating the metallurgy of nonferrous metals. The fifth part consists of three articles on the forming of metals. The sixth part consists of eight articles discussing certain aspects of physical metallurgy. The last part deals with general problems in the field of metallurgy. References are given after each article. No personalities are mentioned.

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TSELIKOV, A.I.; RITMAN, R.I., inzh.

Determining forces acting on planetary mill rolls. [Trudy] MVTU no.84:5-31 '58. (MIRA 12:5)

1.Chlen-korrespondent AN SSSR (for TSelikov).
(Rolling mills--Testing)

TSELIKOV, A.I., prof.

New designs of rolling mills based on advanced rolling technology.
Izv. vys. ucheb. zav.; mashinostr. no.1:5-15 '58. (MIRA 11:6)

1.Chlen-korrespondent AN SSSR, Moskovskoye vysshaye tekhnicheskoye uchilishe im. Baumana.
(Rolling mills)

TSELIKOV, A.I.

Progressive practices and basic trends in the expansion of metalwork by pressure. Dost.nauki i tekh.i perad.op.v prom.i stroi. no.2:43-53 '58. (MIRA 12:10)

1. Chlen-korrespondent AN SSSR.
(Rolling (Metalwork)) (Forging)

TSELIKOV, A.I.

122-2-27/33

AUTHORS: Tselikov, A.I., Corresponding Member of the Ac.Sc. USSR, Professor, and Korolev, A.A., Candidate of Technical Sciences.

TITLE: New Rolling Mill Equipment in England (Novye prokatnyye stany Anglii)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, No.2, pp. 73-79 (USSR)

ABSTRACT: In August and September, 1957, the editorial offices of "Vestnik Mashinostroyeniya" were visited by the assistant editor of the English journal, "Engineering" - Mr. E.P. Ward. After returning to England, Mr. Ward published in his journal a series of articles, six of which under the general heading, "What is the Quality of Soviet Engineers?", were published in October and November, 1957. The editorial offices of "Engineering" in London received a return visit, namely, the assistant editor, Candidate of Technical Sciences A.A. Korolev, and a member of the editorial board, Corresponding Member of the Ac.Sc. USSR, Professor A.I. Tselikov. After terminating the visit of the Russian representatives at the editorial offices of "Engineering" a meeting was held with Mr. Roberts. Both sides expressed their satisfaction with the visits and also the desire for closer co-operation. This is the first of a series of articles prepared by A.I. Tselikov and A.A. Korolev on the knowledge gained

Card1/2 relating to new techniques applied in England. It deals with

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equipment produced by Davy-United, Robertson, and Brightside, and also with some of the equipment installed in various British steel works. There are 11 figures.

AVAILABLE: Library of Congress

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133-58-5-17/31

AUTHOR: Tselikov, A. I., Corresponding member of the Academy of Science of the USSR

TITLE: The Present State of the Theory of Metal Pressure on Rolls During Longitudinal Rolling (Sovremennoye sostoyaniye teorii davleniya metalla na valki pri prodol'noy prokatke)

PERIODICAL: Stal', 1958, Nr 5, pp 434-441 (USSR)

ABSTRACT: The paper is a reply to the paper of Yu. M. Chizhikov (published in the same journal pp.428-433). The author agrees that the existing formulae, including the author's own, do not reflect the influence of all the factors acting during rolling and therefore cannot be considered as universal and require further improvement. Chizhykov in his paper made methodical mistakes and in calculations using Tselikov's formula did not take into consideration the influence of the velocity of deformation and external zones. If the formula was used correctly the differences between the calculated and practical results would be insignificant. The actual deficiencies of the Tselikov formula, yet not point out by Chizhikov are a simplified

Card 1/2 determination of the influence of the external friction,

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disregarding the influence of the width of strip and averaging of the resistance to deformation along the arc of grip. The author points out method of removing these deficiencies giving some practical proposals. For a more accurate evaluation of the external friction the rolling process should be considered differentially depending on the value of the ratio of l/hc (at $l/h_c \leqslant 2$ the non-uniformity of the distribution of stresses along the height of rolled cross section, and at $\frac{b_c}{l} \leqslant 5$ - non-uniformity of their distribution along the width of the cross section should be taken into consideration). In the editorial note further discussion of the problem is invited.
There are 6 figures and 36 references, 30 of which are Soviet, 3 German, 2 English and 1 Swedish.

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SOV/122-58-11-8/18

AUTHOR: Tselikov, A.I., Corresponding Member of the Academy of Sciences of the USSR

TITLE: Technical Development and Automation Trends in Rolling Mills (Puti tekhnicheskogo razvitiya i avtomatizatsii v stanostroyenii)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, Nr 11, pp 40-46 (USSR)

ABSTRACT: During the coming 15 years the annual growth of rolled steel production is scheduled to be 2.4 - 3.3 million tons. The development trends in new mill construction are surveyed under several major headings.
(a) Compared with the mechanisation of the rolling process itself, auxiliary operations are lagging and now consume up to 80% of the man-hours; cleaning and cutting out of defects being the worst offenders. These retarded branches require the greatest development effort. The Central Design Office for Metallurgical Engineering (TsKBMM) is developing new processes for the cutting of rolled products as they emerge from the mill by using hydro-electric effects and local induction heating with subsequent separation. These are expected

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to yield more economic operation than fly shears. The use of hydro-electric and ultrasonic effects instead of acid pickling for descaling are under development. Auxiliary machines, already tested under production conditions, include:- a marking machine using rapidly drying paint on moving duralumin sheet, proposed by D.I.Zharnitskiy; a mechanical marker for the end face marking of ingots and slabs, proposed by I.S.Pobedin; a machine for single sheet feeding from a stack and subsequent stacking; a machine for binding rolled wire coils; a machine for cutting, transporting and storing in bundles of light section rolled products; a machine for separating sheets stuck together and others. Further attention is urged to machines for removing surface defects and installations for the inspection, sorting and packing, and to painting and other coating processes. The position of such units in a continuous strip rolling mill is illustrated in Fig 1. Special attention is also required to improvements in continuous tin plating of steel sheet, galvanising by

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the Zendzimir method, galvanising and painting of tubes and similar processes. (b) Increasing the level of automation by radically new rolling processes has led to the development of complete innovations emanating from the TsKBMM, without parallel outside Russia. These include roller mills for cold rolling of tubes, three-roll mills for variable profile rolling, finned tube rolling mills and others. Although initially applied to the production of special and thin-gauge (economic) profiles, this experience is to be used in ordinary rolling mill production. Emphasis on continuous processes is advocated, for example by butt welding of individual lengths of stock. This is practised in producing welded tubes and, in particular, in the spirally welded tube mill installed at the "Imeni Il'icha" Works. In wire drawing mills, A.M.Kogos and V.F.Moseyev of the TsKBMM have developed a new coiler system permitting the withdrawal of finished wire coil without stopping the drawing process. Continuous

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processes in hot rolling embody two different trends. The first uses butt welding of the initial stock when entering the first stand of the continuous mill. A.N.Iroshnikov of the TsKBMM has developed experimentally a "Flying" welding machine, which welds while moving together with the advancing slab. On this basis, a continuous automatic wire drawing mill with a rolling mill rate of 60 m/secs is projected, which is twice as fast as existing mills. Similar flying welders are under development by Schleemann and the Thaelmann Works in West and East Germany. Another process developed by the TsKBMM in co-operation with the EZTM, avoids the difficulty of welding in motion by the use of a loop. Fig.2 shows this embodied in a tube reduction mill. The diminishing loop acts as a "storage" of length to ensure continuous feeding into the mill, while welding by stationary butt welding machines working intermittently. The continuous process is especially attractive in tube reduction, where otherwise gauge variations exist at the ends of each length. The

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second trend in achieving continuity is the setting up of the rolling mill immediately after the continuous casting installation, similar to the Italian Properzi Process for Aluminium Wire Production already in use in the United States, Italy and other countries. The experimental installations in the USSR, USA, France and other countries producing continuously cast steel operate without connection with rolling mills. Development of such a combination is strongly advocated. Existing rates of material flow from the steel crystalliser (0.7 - 1.2 m/min) do not permit the use of large capacity ladles or high production rolling mills. New systems of continuous casting yielding higher speeds are required. The rolling operation following continuous casting cannot economically be performed by existing rolling mill processes. A discussion leads to the adoption of a new process based on the planetary universal rolling mill of the TsKBMM system (USSR patent No. 107346) which permits

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the rolling in a single frame of a square section bar with a reduction of 20-80 in a single pass. The rolling machine, illustrated in Fig. 4, consists of 3 stands, the feeding, the working and the calibrating stands and can replace about 12 stands of a continuous billet mill. From a multi-jet continuous casting installation yielding a square section of 200 x 200 or even 250 x 250 mm, with an output of up to 150 tons/hr at the rate of 1 m/min, the section passes through a continuous pre-heating and soaking furnace and enters the planetary rolling mill, where it is reduced to a square section of 40 x 40 mm and whence it proceeds through the ordinary profiling mills. (c) Experimental investigations have shown that in hot and cold rolling and drawing the pressure hardly increases with the rate of progress. Designers of the TsKBMM and others have increased the rate of continuous billet mills, type 550, to 5.5 instead of 4.2 m/sec, the rate of continuous strip mills, type 300, to 21 instead of 16 m/sec, the rate of wide strip mills, type 1700 (designed by NKMZ) to 13-15 instead of 11.5 m/sec, the rate of 5-stand continuous

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sheet mills (designed by UZTM) to 36-38 instead of 22-35 m/sec, the rate of drawing benches, type 5 x 350, to 18-20 instead of 10 m/sec. Foreign practice shows secondary limitations rather than roll velocity. Thus English 5-stand sheet mills designed for 22 and 28 m/sec actually operate at 12-15 m/sec. At high rates, micrometer adjustment of rolls does not ensure the required thickness and automatic control is required. Fly - shears for higher rates have been developed by the TsKBMM in co-operation with the SKMZ. Fig.5 illustrates a crank type shear for sections of 100 x 100 mm designed by M.A.Stoshs and V.S. Afanas'yev. (3) Only 6-15% of the cost of rolled products cover the cost of production from the ingot stage, the rest is metal cost. National economy demands economical profiles, some of which require new rolling mills. Thin gauge profiles, profiles bent from strip, thin gauge seamless and welded tubes, cold rolled very thin steel tape, variable profile sections, railway carriage axles and others

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need new equipment. (e) Rolling mills for special blanks and components for the engineering industries are being developed at the TsKBMM including spur and bevel gear mills, mills for rolling of worms and large threads, mills for rolling bicycle rear wheel hubs (illustrated in Fig.6), mills for rolling cylinders for cement grinders, for rolling textile spinning spindles and others. The creation of a gear rolling machine, embodying finish surface rolling is advocated. The process of rolling bodies of revolution in helical rolls in the cold state should be further developed. (f) The present day tolerances in cold rolled sheet of 0.2 - 0.8 mm gauge amount to 15-30%; in hot rolled sheet of 4-10 mm gauge, to 10-25%; in round bar of 10-50 mm diameter, to 2.2 - 6% and in the wall thickness seamless tubes, to 27%. Some possibilities of halving these tolerances are discussed, based on contactless measurement, automatic adjustment and new methods of rolling and extrusion. (g) Reducing the first cost of rolling mills involves the wider

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application of welded, instead of cast, frames. The cost of sheet is about half the cost of form castings from engineering foundries. Gear wheels welded with rolled tyre rims are economical. There are 7 illustrations.

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